# General

## Guideline Title

Metastatic spinal cord compression. Diagnosis and management of adults at risk of and with metastatic spinal cord compression.

## Bibliographic Source(s)

National Collaborating Centre for Cancer. Metastatic spinal cord compression. Diagnosis and management of adults at risk of and with metastatic spinal cord compression. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008 Nov. 39 p. (Clinical guideline; no. 75).

## Guideline Status

This is the current release of the guideline.

The National Collaborating Centre for Cancer reaffirmed the currency of this guideline in 2012.

# Regulatory Alert

## FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- March 22, 2016 – Opioid pain medicines : The U.S. Food and Drug Administration (FDA) is warning about several safety issues with the entire class of opioid pain medicines. These safety risks are potentially harmful interactions with numerous other medications, problems with the adrenal glands, and decreased sex hormone levels. They are requiring changes to the labels of all opioid drugs to warn about these risks.

# Recommendations

## Major Recommendations

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Collaborating Centre for Cancer (NCC-C) on behalf of the National Institute for Health and Clinical Excellence (NICE). See the "Availability of Companion Documents" field for the full version of this guidance.

Service Configuration and Urgency of Treatment

Every cancer network should have a clear care pathway for the diagnosis, treatment, rehabilitation, and ongoing care of patients with metastatic spinal cord compression (MSCC).

Every cancer network should ensure that appropriate services are commissioned and in place for the efficient and effective diagnosis, treatment, rehabilitation, and ongoing care of patients with MSCC. These services should be monitored regularly through prospective audit of the care pathway.

Cancer networks should ensure that there is local access to urgent magnetic resonance imaging (MRI) within 24 hours for all patients with suspected MSCC. This service should be available outside normal working hours and with 24-hour capability in centres treating patients with MSCC.

Every cancer network should have a network site specific group for MSCC. The group should include representatives from primary, secondary and tertiary care and should have strong links to network site specific groups for primary tumours.

The cancer network should appoint a network lead for MSCC whose responsibilities include:

- Advising the cancer network, commissioners, and providers about the provision and organisation of relevant clinical services
- Ensuring that the local care pathway for diagnosis and management are documented, agreed, and consistent across the network
- Ensuring that there are appropriate points of telephone contact for the role of an MSCC coordinator and senior clinical advisers
- Maintaining a network-wide audit of the incidence, timeliness of management, and outcomes of patients with MSCC using nationally agreed measures
- Arranging and chairing twice-yearly meetings of the network site specific group for MSCC, at which patient outcomes will be reported and the local care pathway reviewed and amended if necessary

Every secondary or tertiary care centre should have an identified lead healthcare professional for MSCC (who is usually, but not necessarily, medical) whose responsibilities include:

- Representing the hospital at network level in the development of care pathways
- Implementing the care pathway and disseminating information about the diagnosis and appropriate management of patients with known or suspected MSCC
- Ensuring timely and effective communication between all relevant healthcare professionals involved in the care of patients with MSCC, including primary care and palliative care
- Raising and maintaining the awareness and understanding of treatments for MSCC among all clinical staff across the locality
- Contributing to regular network audits of the care of patients with MSCC
- Attending and contributing to the twice-yearly network site specific group meeting

Commissioners should establish a joint approach with councils responsible for local social services to ensure efficient provision of equipment and support, including nursing and rehabilitation services, to meet the individual needs of patients with MSCC and their families and carers.

MSCC Coordinator and Senior Clinical Adviser — Roles and Responsibilities

Each centre treating patients with MSCC should identify or appoint individuals responsible for performing the role of MSCC coordinator and ensure its availability at all times.

Each centre treating patients with MSCC should have a single point of contact to access the MSCC coordinator who should provide advice to clinicians and coordinate the care pathway at all times.

The MSCC coordinator should:

- Provide the first point of contact for clinicians who suspect that a patient may be developing spinal metastases or MSCC
- Perform an initial telephone triage by assessing requirement for, and urgency of, investigations, transfer, and treatment
- Advise on the immediate care of the spinal cord and spine and seek senior clinical advice, as necessary
- Gather baseline information to aid decision-making and collate data for audit purposes
- Identify the appropriate place for timely investigations and admission if required
- Liaise with the acute receiving team and organise admission and mode of transport

The optimal care of patients with MSCC should be determined by senior clinical advisers (these include clinical oncologists, spinal surgeons, and radiologists with experience and expertise in treating patients with MSCC), taking into account the patient's preferences and all aspects of their

condition, with advice from primary tumour site clinicians or other experts, as required.

Every centre treating patients with MSCC should ensure 24-hour availability of senior clinical advisers to give advice and support to the MSCC coordinator and other clinicians, inform the decision-making process and undertake treatment where necessary.

## The Patient's Experience of MSCC

### Supporting Patient Decisions

Ensure that communication with patients with known or suspected MSCC is clear and consistent, and that the patients, their families, and carers are fully informed and involved in all decisions about treatment.

### Emotional and Family Support

Offer patients with MSCC and their families and carers specialist psychological and/or spiritual support appropriate to their needs at diagnosis, at other key points during treatment and on discharge from hospital.

Provide information to patients with MSCC in an appropriate language and format that explains how to access psychological and/or spiritual support services when needed.

Offer bereavement support services to patients' families based on the three component model outlined in 'Improving supportive and palliative care for adults with cancer' (NICE cancer service guidance CSGSP).

## Early Detection

### Communicating Symptoms and Risks

Inform patients at high risk of developing bone metastases, patients with diagnosed bone metastases, or patients with cancer who present with spinal pain about the symptoms of MSCC. Offer information (for example, in the form of a leaflet) to patients and their families and carers which explains the symptoms of MSCC, and advises them (and their healthcare professionals) what to do if they develop these symptoms.

Ensure that patients with MSCC and their families and carers know who to contact if their symptoms progress while they are waiting for urgent investigation of suspected MSCC.

### Early Symptoms and Signs

Contact the MSCC coordinator urgently (within 24 hours) to discuss the care of patients with cancer and any of the following symptoms suggestive of spinal metastases:

- Pain in the middle (thoracic) or upper (cervical) spine
- Progressive lower (lumbar) spinal pain
- Severe unremitting lower spinal pain
- Spinal pain aggravated by straining (for example, at stool, or when coughing or sneezing)
- Localised spinal tenderness
- Nocturnal spinal pain preventing sleep

Contact the MSCC coordinator immediately to discuss the care of patients with cancer and symptoms suggestive of spinal metastases who have any of the following neurological symptoms or signs suggestive of MSCC, and view them as an oncological emergency:

- Neurological symptoms including radicular pain, any limb weakness, difficulty in walking, sensory loss or bladder or bowel dysfunction
- Neurological signs of spinal cord or cauda equina compression

Perform frequent clinical reviews of patients with cancer who develop lower spinal pain that is clinically thought to be of non-specific origin (that is, it is not progressive, severe, or aggravated by straining and has no accompanying neurological symptoms). In particular, look for:

- Development of progressive pain or other symptoms suggestive of spinal metastases (contact the MSCC coordinator within 24 hours)
- Development of neurological symptoms or signs suggestive of MSCC (contact the MSCC coordinator immediately)

Perform frequent clinical reviews of patients without a prior diagnosis of cancer who develop suspicious spinal pain with or without neurological symptoms. Treat or refer patients with stable and mild symptoms by normal non-specific spinal pathways, or refer by cancer pathway if concerned. In particular, look for:

- Development of progressive pain or other symptoms suggestive of spinal metastases (contact the MSCC coordinator within 24 hours)
- Development of neurological symptoms or signs suggestive of MSCC (contact the MSCC coordinator immediately)

Imaging

Choice of Imaging Modality

MRI of the spine in patients with suspected MSCC should be supervised and reported by a radiologist and should include sagittal T1 and/or short T1 inversion recovery (STIR) sequences of the whole spine, to prove or exclude the presence of spinal metastases. Sagittal T2 weighted sequences should also be performed to show the level and degree of compression of the cord or cauda equina by a soft tissue mass and to detect lesions within the cord itself. Supplementary axial imaging should be performed through any significant abnormality noted on the sagittal scan.

Contact the MSCC coordinator to determine the most appropriate method of imaging for patients with suspected MSCC in whom MRI is contraindicated and where this should be carried out.

Consider targeted computerised tomography (CT) scan with three-plane reconstruction to assess spinal stability and plan vertebroplasty, kyphoplasty, or spinal surgery in patients with MSCC.

Consider myelography if other imaging modalities are contraindicated or inadequate. Myelography should only be undertaken at a neuroscience or spinal surgical centre because of the technical expertise required and because patients with MSCC may deteriorate following myelography and require urgent decompression.

Do not perform plain radiographs of the spine either to make or to exclude the diagnosis of spinal metastases or MSCC.

Routine MRI and Early Detection of MSCC

In patients with a previous diagnosis of malignancy, routine imaging of the spine is not recommended if they are asymptomatic.

Serial imaging of the spine in asymptomatic patients with cancer who are at high risk of developing spinal metastases should only be performed as part of a randomised controlled trial.

Timing of MRI Assessment

Imaging departments should configure MRI lists to permit time for examination of patients with suspected MSCC at short notice during existing or extended sessions (by moving routine cases into ad hoc overtime or to alternative sessions, if overtime is not possible).

If MRI is not available at the referring hospital, transfer patients with suspected MSCC to a unit with 24-hour capability for MRI and definitive treatment of MSCC.

Perform MRI of the whole spine in patients with suspected MSCC, unless there is a specific contraindication. This should be done in time to allow definitive treatment to be planned within 1 week of the suspected diagnosis in the case of spinal pain suggestive of spinal metastases, and within 24 hours in the case of spinal pain suggestive of spinal metastases and neurological symptoms or signs suggestive of MSCC, and occasionally sooner if there is a pressing clinical need for emergency surgery.

Out of hours MRI should only be performed in clinical circumstances where there is an emergency need and intention to proceed immediately to treatment, if appropriate.

Treatment of Spinal Metastases and MSCC

Treatments for Painful Spinal Metastases and Prevention of MSCC

*Analgesia*

Offer conventional analgesia (including non-steroidal antiinflammatory drugs [NSAIDs], non-opiate and opiate medication) as required to patients with painful spinal metastases in escalating doses as described by the World Health Organisation (WHO) three-step pain relief ladder (See www.who.int/cancer/palliative/painladder/en ).

Consider referral for specialist pain care including invasive procedures (such as epidural or intrathecal analgesia) and neurosurgical interventions for patients with intractable pain from spinal metastases.

*Bisphosphonates*

Offer patients with vertebral involvement from myeloma or breast cancer bisphosphonates to reduce pain and the risk of vertebral fracture/collapse.

Offer patients with vertebral metastases from prostate cancer bisphosphonates to reduce pain only if conventional analgesia fails to control pain.

Bisphosphonates should not be used to treat spinal pain in patients with vertebral involvement from tumour types other than myeloma, breast cancer, or prostate cancer (if conventional analgesia fails) or with the intention of preventing MSCC, except as part of a randomised controlled trial.

*Radiotherapy*

Offer patients with spinal metastases causing non-mechanical spinal pain 8 Gy single fraction palliative radiotherapy even if they are completely paralysed.

Patients with asymptomatic spinal metastases should not be offered radiotherapy with the intention of preventing MSCC except as part of a randomised controlled trial.

*Vertebroplasty and Kyphoplasty*

Consider vertebroplasty (see 'Percutaneous vertebroplasty' [NICE interventional procedure guidance 12]. The Medicines and Healthcare Products Regulatory Agency has issued safety notices relating to this procedure [reference MDA/2003/02]) or kyphoplasty (see 'Balloon kyphoplasty for vertebral compression fractures' [NICE interventional procedure guidance 166]) for patients who have vertebral metastases and no evidence of MSCC or spinal instability if they have:

- Mechanical pain resistant to conventional analgesia
- Vertebral body collapse

Vertebroplasty or kyphoplasty for spinal metastases should only be performed after agreement between appropriate specialists (including an oncologist, interventional radiologist, and spinal surgeon), with full involvement of the patient and in facilities where there is good access to spinal surgery.

*Surgery*

Urgently consider patients with spinal metastases and imaging evidence of structural spinal failure with spinal instability for surgery to stabilise the spine and prevent MSCC.

Consider patients with spinal metastases and mechanical pain resistant to conventional analgesia for spinal stabilisation surgery even if completely paralysed.

Consider patients with MSCC who have severe mechanical pain and/or imaging evidence of spinal instability, but who are unsuitable for surgery, for external spinal support (for example, a halo vest or cervico-thoraco-lumbar orthosis).

Patients with spinal metastases without pain or instability should not be offered surgery with the intention of preventing MSCC except as part of a randomised controlled trial.

*Treatment Options*

All decisions on the most appropriate combinations of treatment for pain or preventing paralysis caused by MSCC should be made by relevant spinal specialists in consultation with primary tumour site clinicians and with the full involvement of the patient.

Care of the Threatened Spinal Cord in Patients with MSCC

*Mobilisation*

Patients with severe mechanical pain suggestive of spinal instability, or any neurological symptoms or signs suggestive of MSCC, should be nursed flat with neutral spine alignment (including 'log rolling' or turning beds, with use of a slipper pan for toilet) until bony and neurological stability are ensured and cautious remobilisation may begin.

For patients with MSCC, once any spinal shock has settled and neurology is stable, carry out close monitoring and interval assessment during gradual sitting from supine to 60 degrees over a period of 3 to 4 hours.

When patients with MSCC begin gradual sitting, if their blood pressure remains stable and no significant increase in pain or neurological symptoms

occurs, continue to unsupported sitting, transfers, and mobilisation as symptoms allow.

If a significant increase in pain or neurological symptoms occurs when patients with MSCC begin gradual sitting and mobilisation, return them to a position where these changes reverse and reassess the stability of their spine.

After a full discussion of the risks, patients who are not suitable for definitive treatment should be helped to position themselves and mobilise as symptoms permit with the aid of orthoses and/or specialist seating to stabilise the spine, if appropriate.

*Corticosteroids*

Unless contraindicated (including a significant suspicion of lymphoma) offer all patients with MSCC a loading dose of at least 16 mg of dexamethasone as soon as possible after assessment, followed by a short course of 16 mg dexamethasone daily while treatment is being planned.

Continue dexamethasone 16 mg daily in patients awaiting surgery or radiotherapy for MSCC. After surgery or the start of radiotherapy the dose should be reduced gradually over 5 to 7 days and stopped. If neurological function deteriorates at any time the dose should be increased temporarily.

Reduce gradually and stop dexamethasone 16 mg daily in patients with MSCC who do not proceed to surgery or radiotherapy after planning. If neurological function deteriorates at any time the dose should be reconsidered.

Monitor blood glucose levels in all patients receiving corticosteroids.

Case Selection for Definitive Treatment of MSCC

Start definitive treatment, if appropriate, before any further neurological deterioration and ideally within 24 hours of the confirmed diagnosis of MSCC.

*Nature of Metastases*

Attempt to establish the primary histology of spinal metastases (including by tumour biopsy, if necessary) when planning definitive treatment.

Stage the tumours of patients with MSCC to determine the number, anatomical sites, and extent of spinal and visceral metastases when planning definitive treatment.

*Functional Ability, General Fitness, Previous Treatments, and Fitness for Anaesthesia*

Take into account the preferences of patients with MSCC as well as their neurological ability, functional status, general health and fitness, previous treatments, magnitude of surgery, likelihood of complications, fitness for general anaesthesia, and overall prognosis when planning treatment.

Patients with suspected MSCC, a poor performance status and widespread metastatic disease should wherever possible be discussed with their primary tumour site clinician and spinal senior clinical adviser before any urgent imaging or hospital transfer.

Patients with suspected MSCC who have been completely paraplegic or tetraplegic for more than 24 hours should wherever possible be discussed urgently with their primary tumour site clinician and spinal senior clinical adviser before any imaging or hospital transfer.

Patients who are too frail or unfit for specialist treatment for MSCC should not be transferred unnecessarily.

*Age*

Patients with MSCC should not be denied either surgery (if fit enough) or radiotherapy on the basis of age alone.

*The Role of Scoring Systems*

When deciding whether surgery is appropriate, and if so its type and extent, use recognised prognostic factors including the revised Tokuhashi scoring system, and American Society of Anaesthetists (ASA) grading. Systematically record and take into account relevant comorbidities.

Only consider major surgical treatments for patients expected to survive longer than 3 months.

Surgery for the Definitive Treatment of MSCC

*General Principles*

If surgery is appropriate in patients with MSCC, attempt to achieve both spinal cord decompression and durable spinal column stability.

*Neurological Ability*

Patients with MSCC who are suitable for surgery should have surgery before they lose the ability to walk.

Patients with MSCC who have residual distal sensory or motor function and a good prognosis should be offered surgery in an attempt to recover useful function, regardless of their ability to walk.

Patients with MSCC who have been completely paraplegic or tetraplegic for more than 24 hours should only be offered surgery if spinal stabilisation is required for pain relief.

*Timing*

Consider the speed of onset, duration, degree, and site of origin of neurological symptoms and signs (cord or cauda equina) when assessing the urgency of surgery.

*Technical Factors*

Carefully plan surgery to maximise the probability of preserving spinal cord function without undue risk to the patient, taking into account their overall fitness, prognosis, and preferences.

Posterior decompression alone should not be performed in patients with MSCC except in the rare circumstances of isolated epidural tumour or neural arch metastases without bony instability.

If spinal metastases involve the vertebral body or threaten spinal stability, posterior decompression should always be accompanied by internal fixation with or without bone grafting.

Consider vertebral body reinforcement with cement for patients with MSCC and vertebral body involvement who are suitable for instrumented decompression but are expected to survive for less than 1 year.

Consider vertebral body reconstruction with anterior bone graft for patients with MSCC and vertebral body involvement who are suitable for instrumented decompression, are expected to survive for 1 year or longer and who are fit to undergo a more prolonged procedure.

En bloc excisional surgery with the objective of curing the cancer should not be attempted, except in very rare circumstances (for example, confirmed solitary renal or thyroid metastasis following complete staging).

Radiotherapy for the Definitive Treatment of MSCC

Ensure urgent (within 24 hours) access to and availability of radiotherapy and simulator facilities in daytime sessions, 7 days a week for patients with MSCC requiring definitive treatment or who are unsuitable for surgery.

Offer fractionated radiotherapy as the definitive treatment of choice to patients with epidural tumour without neurological impairment, mechanical pain, or spinal instability.

Offer a fractionated rather than a single fraction regimen to patients with a good prognosis who are having radiotherapy as their first-line treatment.

Preoperative radiotherapy should not be carried out on patients with MSCC if surgery is planned.

Postoperative fractionated radiotherapy should be offered routinely to all patients with a satisfactory surgical outcome once the wound has healed.

Offer urgent radiotherapy (within 24 hours) to all patients with MSCC who are not suitable for spinal surgery unless:

- They have had complete tetraplegia or paraplegia for more than 24 hours and their pain is well controlled
- Their overall prognosis is judged to be too poor

*Selection of Treatment Following Previous Radiotherapy*

Consider further radiotherapy or surgery for patients who have responded well to previous radiotherapy and develop recurrent symptoms after at least 3 months.

If patients have further radiotherapy, the total dose should be below a biologically equivalent dose of 100 $Gy_2$ where possible. Discuss the possible benefits and risks with the patient before agreeing a treatment plan.

Supportive Care and Rehabilitation

Interventions for Thromboprophylaxis

Offer all patients who are on bed rest with suspected MSCC thigh-length graduated compression/anti-embolism stockings unless contraindicated, and/or intermittent pneumatic compression or foot impulse devices.

Offer patients with MSCC who are at high risk of venous thromboembolism (including those treated surgically and judged safe for anticoagulation) subcutaneous thromboprophylactic low molecular weight heparin in addition to mechanical thromboprophylaxis. (See the National Guideline Clearinghouse [NGC] summary of the National Institute for Health and Clinical Excellence [NICE] clinical guideline Venous thromboembolism in adults admitted to hospital: reducing the risk for information on reducing the risk of venous thromboembolism [deep vein thrombosis and pulmonary embolism] in inpatients undergoing spinal surgery).

For patients with MSCC, individually assess the duration of thromboprophylactic treatment, based on the presence of ongoing risk factors, overall clinical condition, and return to mobility.

Management of Pressure Ulcers

Undertake and document a risk assessment for pressure ulcers (using a recognised assessment tool) at the beginning of an episode of care for patients with MSCC. Repeat this assessment every time the patient is turned while on bed rest and at least daily thereafter.

While patients with MSCC are on bed rest, turn them using a log rolling technique at least every 2 to 3 hours. Encourage patients who are not on bed rest to mobilise regularly (every few hours). Encourage and assist those who are unable to stand or walk to perform pressure relieving activities such as forward/sideways leaning at least hourly when they are sitting out.

Promptly provide pressure relieving devices to patients with MSCC appropriate to their pressure risk assessment score. Offer patients with restricted mobility or reduced sensation cushions and/or mattresses with very high-grade pressure-relieving properties.

When caring for patients with MSCC, adhere to the pressure sore assessment, prevention and healing protocols recommended in 'The use of pressure-relieving devices for prevention of pressure ulcers' (NICE clinical guideline 7) and 'The management of pressure ulcers in primary and secondary care' (NICE clinical guideline 29).

Bladder and Bowel Continence Management

Assess bowel and bladder function in all patients with MSCC on initial presentation and start a plan of care.

Monitor patients with MSCC who are continent and without urinary retention or disturbed bowel function at least daily for changes in bladder and bowel function.

Manage bladder dysfunction in patients with MSCC initially by a urinary catheter on free drainage. If long-term catheterisation is required, consider intermittent catheterisation or suprapubic catheters.

Offer a neurological bowel management programme to patients with MSCC and disturbed bowel habit as recommended in 'Faecal incontinence' (NICE clinical guideline 49). Take account of patient preferences when offering diet modification, faecal softeners, oral or rectal laxatives, and/or constipating agents as required. Digital stimulation, manual evacuation, rectal irrigation, and surgical treatment may be offered, as required.

Maintaining Circulatory and Respiratory Functioning

Include heart rate and blood pressure measurement, respiratory rate, and pulse oximetry in the initial assessment and routine monitoring of all patients with MSCC.

Symptomatic postural hypotension in patients with MSCC should be managed initially by patient positioning and devices to improve venous return (such as foot pumps and graduated compression/anti-embolism stockings). Avoid overhydration which can provoke pulmonary oedema.

Include clearing of lung secretions by breathing exercises, assisted coughing, and suctioning as needed in the prophylactic respiratory management of patients with MSCC. Treat retained secretions and the consequences by deep breathing and positioning supplemented by bi-phasic positive airway pressure and intermittent positive pressure ventilation if necessary.

Access to Specialist Rehabilitation and Transition to Care at Home

Ensure that all patients admitted to hospital with MSCC have access to a full range of healthcare professional support services for assessment, advice, and rehabilitation.

Focus the rehabilitation of patients with MSCC on their goals and desired outcomes, which could include promoting functional independence,

participation in normal activities of daily life, and aspects related to their quality of life.

Offer admission to a specialist rehabilitation unit to those patients with MSCC who are most likely to benefit, for example, those with a good prognosis, a high activity tolerance, and strong rehabilitation potential.

Discharge planning and ongoing care, including rehabilitation for patients with MSCC, should start on admission and be led by a named individual from within the responsible clinical team. It should involve the patient and their families and carers, their primary oncology site team, rehabilitation team and community support, including primary care and specialist palliative care, as required.

Ensure that community-based rehabilitation and supportive care services are available to people with MSCC following their return home, in order to maximise their quality of life and continued involvement in activities that they value.

Ensure that people with MSCC are provided with the equipment and care they require in a timely fashion to maximise their quality of life at home.

Offer the families and carers of patients with MSCC relevant support and training before discharge home.

Clear pathways should be established between hospitals and community-based healthcare and social services teams to ensure that equipment and support for people with MSCC returning home and their carers and families are arranged in an efficient and coordinated manner.

### Clinical Algorithm(s)

The following clinical algorithms are provided the original guideline document:

- Diagnosis and management of patients with symptoms suggestive of spinal metastases/metastatic spinal cord compression (MSCC)
- Flow chart for decisions about the timing and safety of mobilisation once MSCC is suspected

## Scope

### Disease/Condition(s)

Metastatic spinal cord compression (MSCC)

### Guideline Category

Diagnosis

Evaluation

Management

Risk Assessment

Treatment

### Clinical Specialty

Family Practice

Internal Medicine

Neurological Surgery

Neurology

Oncology

Orthopedic Surgery

Radiation Oncology

Radiology

## Intended Users

Advanced Practice Nurses

Allied Health Personnel

Hospitals

Nurses

Occupational Therapists

Patients

Physician Assistants

Physicians

## Guideline Objective(s)

To consider the available evidence and provide recommendations to promote best practice and, whenever possible, to prevent paralysis from adversely affecting the quality of life for people with metastatic cancer

## Target Population

Adults with metastatic spinal disease at risk of developing metastatic spinal cord compression
Adults with suspected and diagnosed spinal cord and nerve root compression due to metastatic malignant disease
Adults with primary malignant tumours (for example, lung cancer, mesothelioma, or plasmacytoma) and direct infiltration that threatens spinal cord function

Note: The following groups of patients are not covered:

Adults with spinal cord compression due to primary tumours of the spinal cord and meninges

Adults with spinal cord compression due to non-malignant causes

Adults with nerve root tumours compressing the spinal cord

Children

## Interventions and Practices Considered

Diagnosis/Evaluation

1. Assessment of neurological symptoms
2. Contacting metastatic spinal cord compression (MSCC) coordinator immediately or within 24 hours (depending on symptoms)
3. Magnetic resonance imaging and considering targeted computerized tomography scan
4. Myelography if other modalities are contraindicated or inadequate

Management/Treatment

1. Emotional and family support
2. Treatment of painful spinal metastases and prevention of MSCC
    - Analgesia (e.g., non-steroidal anti-inflammatory drugs, non-opiate and opiate medication), including referral for specialist pain care
    - Bisphosphonates

    - Radiotherapy
    - Vertebroplasty and kyphoplasty
    - Surgery
3. Care of the threatened spinal cord in patients with MSCC
    - Maintaining flat position with neutral spine alignment
    - Gradual assessment of sitting
    - Corticosteroids
4. Definitive treatment
    - Surgery
    - Radiotherapy
5. Supportive care and rehabilitation
    - Thromboprophylaxis
    - Management of pressure ulcers
    - Management of bladder and bowel continence
    - Management of circulatory and respiratory functioning
    - Access to specialist rehabilitation and transition to care at home

## Major Outcomes Considered

Incidence of metastatic spinal cord compression
Sensitivity and specificity of diagnostic tests
Median time from the onset of back pain and nerve root pain to referral
Clinical effectiveness
Pain relief
Neurologic function
Ambulation status
Local control or recurrence
Adverse effects of treatment
Bone metastases
Paralysis
Quality of life
Cost-effectiveness
Survival

# Methodology

## Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

## Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Collaborating Centre for Cancer (NCC-C) on behalf of the National Institute for Health and Clinical Excellence (NICE). See the "Availability of Companion Documents" field for the full version of this guidance.

Review of Clinical Literature

At the beginning of the development phase, initial scoping searches were carried out to identify any relevant guidelines (local, national, or international) produced by other groups or institutions. Additionally, stakeholder organisations were invited to submit evidence for consideration by the Guideline Development Group (GDG), provided it was relevant to the agreed list of clinical questions.

In order to answer each question the NCC-C information specialist developed a search strategy to identify relevant published evidence for both clinical and cost effectiveness. Key words and terms for the search were agreed in collaboration with the GDG.

Papers that were published or accepted for publication in peer-reviewed journals were considered as evidence. Search filters, such as those to identify systematic reviews (SRs) and randomised controlled trials (RCTs) were applied to the search strategies when necessary. No language restrictions were applied to the search; however, foreign language papers were not requested or reviewed (unless of particular importance to that question).

The following databases were included in the literature search:

- The Cochrane Library
- Medline and Premedline 1950 onwards
- Excerpta Medica (Embase) 1980 onwards
- Cumulative Index to Nursing and Allied Health Literature (Cinahl) 1982 onwards
- Allied & Complementary Medicine (AMED) 1985 onwards
- British Nursing Index (BNI) 1994 onwards
- Psychinfo 1806 onwards
- Web of Science1970 onwards. [specifically Science Citation Index Expanded (SCIEXPANDED) and Social Sciences Citation Index (SSCI)]
- System for Information on Grey Literature In Europe (SIGLE) 1980-2005
- Biomed Central 1997 onwards
- National Research Register (NRR)
- Current Controlled Trials

From this list the information specialist sifted and removed any irrelevant material based on the title or abstract before passing to the researcher. All the remaining articles were then stored in a Reference Manager electronic library.

Searches were updated and re-run 6 to 8 weeks before the stakeholder consultation, thereby ensuring that the latest relevant published evidence was included in the database. Any evidence published after this date was not included. For the purposes of updating this guideline, 18 April 2008 should be considered the starting point for searching for new evidence.

Further details of the search strategies, including the methodological filters used, are provided in the full version of the original guideline document (see the "Availability of Companion Documents" field) and will also appear on the accompanying CD-ROM to this guideline.

Following the literature search one researcher independently scanned the titles and abstracts of every article for each question, and full publications were obtained for any studies considered relevant or where there was insufficient information from the title and abstract to make a decision. The researcher then individually applied the inclusion/exclusion criteria to determine which studies would be relevant for inclusion and subsequent appraisal. Lists of excluded papers were generated for each question and the rationale for the exclusion was presented to the GDG when required.

Incorporating Health Economics Evidence

The aim of the economic input into the guideline was to inform the GDG of potential economic issues relating to metastatic spinal cord compression. It is important to investigate whether health services are both clinically effective and cost effective, i.e., are they 'value for money'.

The health economist helped the GDG by identifying priority topics within the guideline that might benefit from economic analysis, reviewing the available economic evidence and, where necessary, conducting economic analysis. Where published economic evaluation studies were identified that addressed the economic issues for a clinical question, these are presented alongside the clinical evidence wherever possible.

In order to assess the cost-effectiveness of each priority topic, a comprehensive systematic review of the economic literature was conducted. For those clinical areas reviewed, the information specialists used a similar search strategy as used for the review of clinical evidence but with the inclusion of a health economics and quality of life filter.

Each search strategy was designed to find any applied study estimating the cost or cost effectiveness of the topic under consideration. A health economist reviewed abstracts and relevant papers were ordered for appraisal.

Published economic evidence was obtained from a variety of sources:

- Medline 1966 onwards
- Embase 1980 onwards

- National Health Service Economic Evaluations Database (NHS EED)
- EconLit 1969 onwards

Currency Review

The National Collaborating Centre for Cancer undertook a review of this guideline in 2012 and determined that the information is current. See the NICE Web site for the review decision.

## Number of Source Documents

Not stated

## Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Weighting According to a Rating Scheme (Scheme Given)

## Rating Scheme for the Strength of the Evidence

Levels of Evidence for Intervention Studies

1++ High-quality meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with a very low risk of bias

1+ Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias

1- Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias

2++ High-quality systematic reviews of caseâ€“control or cohort studies; high quality caseâ€“control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relation is causal

2+ Well-conducted caseâ€“control or cohort studies with a very low risk of confounding, bias, or chance and a moderate probability that the relation is causal

2- Caseâ€“control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal

3 Non-analytic studies (for example, case reports, case series)

4 Expert opinion, formal consensus

## Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): This guideline was developed by the National Collaborating Centre for Cancer (NCC-C) on behalf of the National Institute for Health and Clinical Excellence (NICE). See the "Availability of Companion Documents" field for the full version of this guidance.

Critical Appraisal and Evidence Grading

The full papers were critically appraised. Critical appraisal checklists were compiled for each paper and one researcher undertook the critical appraisal and data extraction.

The researcher assessed the quality of eligible studies by referring to the Scottish Intercollegiate Guidelines Network (SIGN) quality checklist for systematic reviews/meta-analyses and randomised control trials (see "Rating Scheme for the Strength of the Evidence" field). Evidence relating to clinical effectiveness was classified using this established hierarchical system. However this checklist is less appropriate for studies reporting diagnostic tests of accuracy. In the absence of a validated hierarchy for this type of test, NICE suggests levels of evidence that take into account the factors likely to affect the validity of these studies (National Institute for Health and Clinical Excellence [April 2007] The guidelines manual. London: National Institute for Health and Clinical Excellence. Available from: www.nice.org.uk ).

For all the relevant appraised studies for a particular question, data on the type of population, intervention, comparator and outcomes (PICO) was recorded in evidence tables and an accompanying evidence summary prepared for the Guideline Development Group (GDG). All the evidence was considered carefully by the GDG for accuracy and completeness.

All procedures were fully compliant with NICE methodology as detailed in the 'NICE guidelines manual' (see the "Availability of Companion Documents" field).

In general, no formal contact was made with authors; however, there were ad hoc occasions when this was required in order to clarify specific details.

Incorporating Health Economics Evidence

*Economic Modelling*

In addition to the review of the relevant clinical evidence, the GDG were required to determine whether or not the cost-effectiveness of each of the individual clinical questions should be investigated. After the clinical questions were decided, the GDG agreed which topics were an 'economic priority' for modelling. These 'economic priority' topics were chosen on the basis of the following criteria, in broad accordance with the NICE guidelines manual:

Overall Relevance of the Topic

- *The number of patients affected*: Interventions affecting relatively large numbers of patients were given a higher economic priority than those affecting fewer patients
- *The health benefits to the patient*: Interventions thatÂ  were considered to have a potentially significant impact on both survival and quality of life were given a higher economic priority
- *The per patient cost*: Interventions with potentially high financial (cost/savings) implications were given high priority compared to interventions expected to have lower financial implications
- *Likelihood of changing clinical practice*: Priority was given to topics that were considered likely to represent a significant change to existing clinical practice.

Uncertainty

- *High level of existing uncertainty*: Higher economic priority was given to clinical questions in which further economic analysis was considered likely to reduce current uncertainty over cost-effectiveness. Low priority was given to clinical questions when the current literature implied a clearly 'attractive' or 'unattractive' incremental cost-effectiveness ratio, which was regarded as generalisable to a UK healthcare setting
- *Likelihood of reducing uncertainty with further analyses (feasibility issues)*: When there was poor evidence for the clinical effectiveness of an intervention, then there was considered to be less justification for an economic analysis to be undertaken.

Once the economic priority topics had been chosen, the next task was to perform a systematic review of the cost-effectiveness literature. When relevant published evidence was identified and considered to be of sufficient quality, this information was used to inform the recommendation for that specific clinical question. When no relevant cost-effectiveness evidence was identified, or when it was not considered to be of reasonable quality, consideration was given to building a de novo economic model. This decision was made by the GDG based on an assessment of the available evidence required to populate a potential economic model.

For those clinical questions where an economic model was required, the information specialist performed supplemental literature searches to obtain additional data for modelling. Assumptions and designs of the models were explained to and agreed by the GDG members during meetings, and they commented on subsequent revisions.

The clinical questions in this guideline selected for modelling were chosen because at the time it was considered likely that the recommendations under consideration could substantially change clinical practice in the National Health Service (NHS) and have important consequences for resource use. The details of the model are presented in the evidence review (see Appendices 1 and 4 in the full version of the guideline [see the

"Availability of Companion Documents" field]). During the modelling process the following general principles were adhered to:

- The GDG Chair and Clinical Lead were consulted during the construction and interpretation of the model
- The model was based on the best evidence from the systematic review
- Model assumptions were reported fully and transparently
- The results were subject to thorough sensitivity analysis and limitations discussed
- Costs were calculated from a health services perspective

## Methods Used to Formulate the Recommendations

Expert Consensus

Informal Consensus

## Description of Methods Used to Formulate the Recommendations

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The Guideline Development Group (GDG)

The metastatic spinal cord compression GDG was recruited in line with the existing NICE protocol as set out in the 'NICE guidelines manual' (NICE 2007). The first step was to appoint a Chair and a Lead Clinician. Advertisements were placed for both posts and candidates were informally interviewed prior to being offered the role. The NCC-C Director, GDG Chair and Lead Clinician identified a list of specialties that needed to be represented on the GDG. Requests for nominations were sent to the main stakeholder organisations and patient organisations/charities (see Appendix 9.2 in the full version of the original guideline document [see the "Availability of Companion Documents" field]). Individual GDG members were selected by the NCC-C Director, GDG Chair and Lead Clinician, based on their application forms, following nomination from their respective stakeholder organisation. The guideline development process was supported by staff from the NCC-C, who undertook the clinical and health economics literature searches, reviewed and presented the evidence to the GDG, managed the process and contributed to drafting the guideline.

Guideline Development Group Meetings

Thirteen GDG meetings were held between 19 September 2006 and 21 April 2008. During each GDG meeting (either held over one day or two days) clinical questions and clinical and economic evidence were reviewed and assessed and recommendations formulated. At each meeting patient/carer and service-user concerns were routinely discussed as part of a standing agenda item.

NCC-C project managers divided the GDG workload by allocating specific topics, relevant to their area of clinical practice, to small sub-groups of the GDG in order to simplify and speed up the guideline development process. These groups considered the evidence, as reviewed by the systematic reviewer, and synthesised it into draft recommendations prior to presenting it to the GDG as a whole. Each topic group was led by a GDG member with expert knowledge of the topic area (usually one of the healthcare professionals). The GDG sub-groups often helped refine the clinical questions and the clinical definitions of treatments. They also assisted the NCC-C team in drafting the section of the guideline relevant to their specific topic.

Developing Clinical Evidence-Based Questions

*Method*

An extensive list of potential topics for the guideline to investigate was compiled by the NCC-C Director and GDG Chair and Clinical Lead. This list was incorporated into a questionnaire which asked respondents to rate each topic on a five point Likert scale ranging from 0 (not a priority) to 5 (very high priority). It was made clear that respondents would be rating the priority for each topic to be included in a clinical guideline to be published in two years' time. The questionnaire also asked respondents to suggest any additional topics they would like to see included with an equivalent assessment of their priority.

Questionnaires were subsequently sent to all members of the metastatic spinal cord compression (MSCC) GDG in advance of the first GDG meeting.

The scores from each completed questionnaire was aggregated by NCC-C staff and ranked. These results together with information on identifiable practice variation were presented to the GDG at its first meeting. The list of prioritised topics produced via the questionnaire survey was in no way definitive and the GDG used these results to agree their final priorities for the clinical questions.

For clinical questions about interventions, the PICO framework was used. This structured approach divides each question into four components: the patients (the population under study – P), the interventions (what is being done – I), the comparisons (other main treatment options – C) and the outcomes (the measures of how effective the interventions have been – O). Where appropriate, the clinical questions were refined once the evidence had been searched and where necessary, sub-questions were generated.

Agreeing the Recommendations

For each clinical question the GDG were presented with a summary of the clinical evidence, and where appropriate economic evidence, derived from the studies reviewed and appraised. From this information the GDG were able to derive the guideline recommendations. The link between the evidence and the view of the GDG in making each recommendation is made explicit in the accompanying qualifying statement.

Qualifying Statements

As clinical guidelines are currently formatted, there is limited scope for expressing how and why a GDG made a particular recommendation from the evidence of clinical and cost effectiveness.

To make this process more transparent to the reader, the NCC-C felt the need for an explicit, easily understood and consistent way of expressing the reasons for making each recommendation.

The way they have chosen to do this is by writing a â€˜qualifying statementâ€™ to accompany every recommendation and will usually cover:

The strength of evidence about benefits and harms for the intervention being considered
The degree of consensus within the GDG
The costs and cost-effectiveness (if formally assessed by the health economics team)

Where evidence was weak or lacking the GDG agreed the final recommendations through informal consensus. Shortly before the consultation period, ten key priorities and five key research recommendations were selected by the GDG for implementation and the patient algorithms were agreed. To avoid giving the impression that higher grade recommendations are of higher priority for implementation, NICE no longer assigns grades to recommendations.

## Rating Scheme for the Strength of the Recommendations

Not applicable

## Cost Analysis

Available published health economics evidence is presented alongside clinical evidence whenever possible in the relevant chapters of the full version of the original guideline document (see the "Availability of Companion Documents" field). In addition, de novo economic evaluations were undertaken for the following topics:

- An economic evaluation of extending magnetic resonance imaging (MRI) scanning hours at a district general hospital for people with suspected metastatic spinal cord compression (see Appendix 1 of the full version of the original guideline for details [see the "Availability of Companion Documents" field])
- An economic evaluation of treatments for people with suspected metastatic spinal cord compression (see Appendix 4 of the full version of the original guideline [see the "Availability of Companion Documents" field])

## Method of Guideline Validation

External Peer Review

Internal Peer Review

### Description of Method of Guideline Validation

The guideline was validated through two consultations.

1. The first draft of the guideline (The full guideline, National Institute for Clinical Excellence [NICE] guideline and Quick Reference Guide) were consulted with Stakeholders and comments were considered by the Guideline Development Group (GDG)
2. The final consultation draft of the full guideline, the NICE guideline and the Information for the Public were submitted to stakeholders for final comments.

The final draft was submitted to the Guideline Review Panel for review prior to publication.

## Evidence Supporting the Recommendations

### Type of Evidence Supporting the Recommendations

Recommendations are based on clinical and cost effectiveness evidence. The link between the evidence and the view of the Guideline Development Group (GDG) in making each recommendation is made explicit in the qualifying statements accompanying recommendations in the full version of the guideline (see the "Availability of Companion Documents" field).

Where evidence was weak or lacking the GDG agreed the final recommendations through informal consensus.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

Appropriate diagnosis and management of adults at risk of and with metastatic spinal cord compression
Prevention of paralysis

### Potential Harms

- Myelography should only be undertaken at a neuroscience or spinal surgical centre because of the technical expertise required and because patients with metastatic spinal cord compression (MSCC) may deteriorate following myelography and require urgent decompression.
- Most common adverse effects of bisphosphonates include nausea, vomiting, anaemia, bone pain, and renal toxicity.
- High-dose, long-duration treatment with corticosteroids causes significant side effects which can be debilitating and occasionally fatal. Antacids or proton pump inhibitors are often given to mitigate the gastrointestinal side effects. Corticosteroids also have a role in the primary treatment of myeloma and lymphoma. However, steroids may impair the histological diagnoses of lymphoma. With higher doses of dexamethasone, a higher rate of adverse events was consistently reported. Blood glucose levels should be monitored in all patients receiving corticosteroids.
- Where heparin is recommended, low-molecular-weight heparin is preferred because it leads to fewer thrombotic events and fewer bleeding complications compared with unfractionated heparin.
- Risks of vertebroplasty and kyphoplasty include cement leakage causing spinal cord compression which may require urgent or emergency surgical intervention.
- Surgical complications included wound infection and failure of fixation that required additional surgery. The rate of complications is significantly increased in patients who have received radiotherapy before surgery than in patients who received surgery first.

## Contraindications

### Contraindications

Bisphosphonates should not be used to treat spinal pain in patients with vertebral involvement from tumour types other than myeloma, breast cancer, or prostate cancer (if conventional analgesia fails) or with the intention of preventing metastatic spinal cord compression (MSCC), except as part of a randomised controlled trial.
Steroids are contraindicated when there is a significant suspicion of lymphoma because they may impair the diagnosis.

# Qualifying Statements

## Qualifying Statements

This guidance represents the view of the National Institute for Health and Clinical Excellence (NICE), which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer and informed by the summary of product characteristics of any drugs they are considering.
Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

# Implementation of the Guideline

## Description of Implementation Strategy

The Healthcare Commission assesses the performance of National Health Service (NHS) organisations in meeting core and developmental standards set by the Department of Health in 'Standards for better health' (available from www.dh.gov.uk ). Implementation of clinical guidelines forms part of the developmental standard D2. Core standard C5 says that national agreed guidance should be taken into account when NHS organisations are planning and delivering care.

The National Institute for Health and Clinical Excellence (NICE) has developed tools to help organisations implement this guidance (listed below). These are available on the NICE Web site (http://guidance.nice.org.uk/CG75 ; see also the "Availability of Companion Documents" field):

- Slides highlighting key messages for local discussion
- Costing tools:
  - Costing report to estimate the national savings and costs associated with implementation
  - Costing template to estimate the local costs and savings involved
- Implementation advice on how to put the guidance into practice and national initiatives that support this locally
- Audit support for monitoring local practice
- A local patient information template

Key Priorities for Implementation

Service Configuration and Urgency of Treatment

Every cancer network should ensure that appropriate services are commissioned and in place for the efficient and effective diagnosis, treatment, rehabilitation and ongoing care of patients with metastatic spinal cord compression (MSCC). These services should be monitored regularly through prospective audit of the care pathway.

Early Detection

Inform patients at high risk of developing bone metastases, patients with diagnosed bone metastases, or patients with cancer who present with spinal pain about the symptoms of MSCC. Offer information (for example, in the form of a leaflet) to patients and their families and carers which explains the symptoms of MSCC, and advises them (and their healthcare professionals) what to do if they develop these

symptoms.

Contact the MSCC coordinator urgently (within 24 hours) to discuss the care of patients with cancer and any of the following symptoms suggestive of spinal metastases:

- Pain in the middle (thoracic) or upper (cervical) spine
- Progressive lower (lumbar) spinal pain
- Severe unremitting lower spinal pain
- Spinal pain aggravated by straining (for example, at stool, or when coughing or sneezing)
- Localised spinal tenderness
- Nocturnal spinal pain preventing sleep

Contact the MSCC coordinator immediately to discuss the care of patients with cancer and symptoms suggestive of spinal metastases who have any of the following neurological symptoms or signs suggestive of MSCC, and view them as an oncological emergency:

- Neurological symptoms including radicular pain, any limb weakness, difficulty in walking, sensory loss or bladder or bowel dysfunction
- Neurological signs of spinal cord or cauda equina compression

Imaging

Perform magnetic resonance imaging (MRI) of the whole spine in patients with suspected MSCC, unless there is a specific contraindication. This should be done in time to allow definitive treatment to be planned within 1 week of the suspected diagnosis in the case of spinal pain suggestive of spinal metastases, and within 24 hours in the case of spinal pain suggestive of spinal metastases and neurological symptoms or signs suggestive of MSCC, and occasionally sooner if there is a pressing clinical need for emergency surgery.

Treatment of Spinal Metastases and MSCC

Patients with severe mechanical pain suggestive of spinal instability, or any neurological symptoms or signs suggestive of MSCC, should be nursed flat with neutral spine alignment (including 'log rolling' or turning beds, with use of a slipper pan for toilet) until bony and neurological stability are ensured and cautious remobilisation may begin.

Start definitive treatment, if appropriate, before any further neurological deterioration and ideally within 24 hours of the confirmed diagnosis of MSCC.

Carefully plan surgery to maximise the probability of preserving spinal cord function without undue risk to the patient, taking into account their overall fitness, prognosis and preferences.

Ensure urgent (within 24 hours) access to and availability of radiotherapy and simulator facilities in daytime sessions, 7 days a week for patients with MSCC requiring definitive treatment or who are unsuitable for surgery.

Supportive Care and Rehabilitation

Discharge planning and ongoing care, including rehabilitation for patients with MSCC, should start on admission and be led by a named individual from within the responsible clinical team. It should involve the patient and their families and carers, their primary oncology site team, rehabilitation team and community support, including primary care and specialist palliative care, as required.

## Implementation Tools

Audit Criteria/Indicators

Clinical Algorithm

Patient Resources

Quick Reference Guides/Physician Guides

Resources

Slide Presentation

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

# Institute of Medicine (IOM) National Healthcare Quality Report Categories

## IOM Care Need

End of Life Care

Getting Better

Living with Illness

## IOM Domain

Effectiveness

Patient-centeredness

Timeliness

# Identifying Information and Availability

## Bibliographic Source(s)

National Collaborating Centre for Cancer. Metastatic spinal cord compression. Diagnosis and management of adults at risk of and with metastatic spinal cord compression. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008 Nov. 39 p. (Clinical guideline; no. 75).

## Adaptation

Not applicable: The guideline was not adapted from another source.

## Date Released

2008 Nov (reaffirmed 2012)

## Guideline Developer(s)

National Collaborating Centre for Cancer - National Government Agency [Non-U.S.]

## Source(s) of Funding

National Institute for Health and Clinical Excellence (NICE)

## Guideline Committee

Guideline Development Group

## Composition of Group That Authored the Guideline

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## Financial Disclosures/Conflicts of Interest

At the start of the guideline development process all Guideline Development Group (GDG) members' interests were recorded on a standard declaration form that covered consultancies, fee-paid work, share-holdings, fellowships and support from the healthcare industry. At all subsequent GDG meetings, members declared new, arising conflicts of interest which were always recorded (see Appendix 9.1 in the full version of the guideline document [see the "Availability of Companion Documents" field]).

## Guideline Status

This is the current release of the guideline.

The National Collaborating Centre for Cancer reaffirmed the currency of this guideline in 2012.

## Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) format from the National Institute for Health and Clinical Excellence (NICE) Web site.

## Availability of Companion Documents

The following are available:

- Metastatic spinal cord compression. Diagnosis and management of patients at risk of or with metastatic spinal cord compression. Full guideline. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008 Nov. 150 p. (Clinical guideline; no. 75). Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Clinical Excellence (NICE) Web site.
- Metastatic spinal cord compression. Diagnosis and management of patients at risk of or with metastatic spinal cord compression. Quick reference guide. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008 Nov. 16 p. (Clinical guideline; no. 75). Electronic copies: Available in Portable Document Format (PDF) from the NICE Web site.
- Metastatic spinal cord compression. Audit support. London (UK): National Institute for Health and Clinical Excellence (NICE); 2009. 12 p. (Clinical guideline; no. 75). Electronic copies: Available from the NICE Web site.
- Metastatic spinal cord compression. Costing report. Implementing NICE guidance. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008 Nov. 31 p. (Clinical guideline; no. 75). Electronic copies: Available in Portable Document Format (PDF) from the NICE Web site.
- Metastatic spinal cord compression: diagnosis and management of adults at risk of and with metastatic spinal cord compression. Costing template. Implementing NICE guidance. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008 Nov. Various p. (Clinical guideline; no. 75). Electronic copies: Available from the NICE Web site.

- Metastatic spinal cord compression. Slide set. Implementing NICE guidance. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008. 17 p. (Clinical guideline; no. 75). Electronic copies: Available from the NICE Web site .
- The guidelines manual 2007. London (UK): National Institute for Health and Clinical Excellence (NICE); 2007 April. Electronic copies: Available in Portable Document Format (PDF) from the NICE Archive Web site .

## Patient Resources

The following is available:

- Metastatic spinal cord compression. Understanding NICE guidance - Information for people who use NHS services. London (UK): National Institute for Health and Clinical Excellence; 2008 Nov. 8 p. (Clinical guideline; no. 75). Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Clinical Excellence (NICE) Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

## NGC Status

This summary was completed by ECRI Institute on February 19, 2010. This summary was updated by ECRI Institute on July 26, 2010 following the U.S. Food and Drug Administration (FDA) advisory on Proton Pump Inhibitors (PPI). The currency of the guideline was reaffirmed by the developer in 2012 and this summary was updated by ECRI Institute on October 30, 2013. This summary was updated by ECRI Institute on March 7, 2014 following the U.S. Food and Drug Administration advisory on Low Molecular Weight Heparins. This summary was updated by ECRI Institute on July 3, 2014 following the U.S. Food and Drug Administration advisory on Epidural Corticosteroid Injection. This summary was updated by ECRI Institute on September 18, 2015 following the U.S. Food and Drug Administration advisory on non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs). This summary was updated by ECRI Institute on June 2, 2016 following the U.S. Food and Drug Administration advisory on Opioid pain medicines.

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